

Avignon 2004: a memorable symposium for *fib*



A magnificent venue and excellent weather contributed to the success of the symposium

Approximately 400 participants from 45 countries attended the 2004 *fib* Symposium on *Concrete Structures: the Challenge of Creativity*, held from 26–28 April 2004 in Avignon, France. Organised by the Association Française de Génie Civil (AFGC), the event combined a magnificent, historically rich venue—the fourteenth century Popes' Palace in the heart of Avignon's old town; over 100 papers and keynote addresses; an excellent level of organisation and coordination of the entire event; and a number of interesting and highly relevant technical visits, including high-speed railway structures and the well-known Millau Viaduct. Those who came to southern France expecting to find good food, fine wines and pleasant weather were certainly not disappointed, and the gala dinner on Tuesday evening, featuring entertainment by medieval-style jugglers, acrobats and dancers, provided

yet another unique moment in an already memorable symposium.

The opening ceremony, chaired by François Perret, president of the AFGC, included addresses by Jim Forbes, president of *fib*, Jean-Philippe Fuzier, president of the organizing committee, Marie-Josée Roig, mayor of Avignon, and minister Gilles de Robien. After an audiovisual interlude about the Provence region, Jim Forbes honoured *fib* medallist Josef Eibl (see separate report in this issue), followed by the presentation of the Caquot medal to John Breen by François Perret. President Forbes then officially opened the symposium.

The opening session was followed by keynote speeches from Werner Lorenz (Germany), Jean-François Klein (Switzerland) and Armando Rito (Portugal), who elaborated on the theme of creativity from

the perspectives of history, aesthetics and modern engineering. The subsequent parallel sessions covered a range of topics within the theme of 'concrete and creativity', including new materials, association of materials, structural behaviour and safety, improvement of concrete surface, monitoring of structures, and models for structural engineering. As Jim Forbes noted, the various topics covered throughout the symposium helped participants to understand and develop the concept of creativity, while the technical visits then allowed them to see it with their own eyes. Furthermore, there was a well-attended technical exhibition featuring 18 international companies.

The closing session, which began with a keynote speech by René Walther, looked back on the three days of conference and exchanges and reflected on lessons learned, innovations discovered, challenges ahead for today's engineers, and the importance of *fib*'s role in promoting and assisting these processes. Capped by a special guided visit of the Pope's Palace on Wednesday evening, and of the Millau Viaduct construction site the next day, the symposium concluded with a sense of

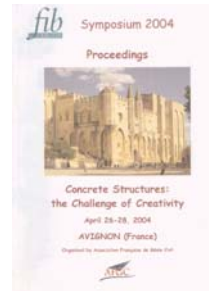
IN THIS ISSUE

Avignon 2004: a memorable symposium for <i>fib</i>	85
<i>fib</i> Medal of Merit awarded to Joseph Eibl	86
General Assembly	87
Technical Activities Workshop	89
<i>fib</i> 2005 Symposium: Keep Concrete Attractive, Budapest	89
New bulletins	90
Short notes	91
Congresses and symposia	92

<http://fib.epfl.ch>



Opening ceremony of the Avignon symposium (from left to right): organising committee president Jean-Philippe Fuzier, fib president Jim Forbes, Avignon mayor Marie-Josée Roig, AFGC president François Perret, minister Gilles de Robien



The proceedings (one volume, nine keynote papers, 93 abstracts, one CD with all papers in full) are available from AFGC: francoise.raban@equipement.gouv.fr; www.afgc.asso.fr. Price: 50 euro

both historical perspective and of great potential for the future. In the words of Gilles de Robien, 'Technical progress will not slow in the beginning of the twenty-first century. In fact, the discovery of new materials with surprising levels of performance, and the great possibilities created by associating these materials, provide fantastic opportunities to conceptual engineers. This does not mean that we should realise extraordinary technical performances just for fun, but rather that we must progress towards safer and more sustainable structures.'

Steering Committee members enjoyed a superb dinner hosted by the French national group.

fib Medal of Merit awarded to Josef Eibl

Council and Steering Committee meetings

The *fib* Council and Steering Committee met on the Saturday before the symposium. Aside from items relating to membership and finances, the main topics related to upcoming events: symposia in New Delhi, Budapest and La Plata (Argentina); the second *fib* congress (Naples, Italy in 2006); Diplomas to Younger Engineers, to be awarded during the Budapest symposium in May 2005; and information on the organisation of future short courses, such as those held in Athens in 2002 and in Chennai in 2003. An update on the progress of the new Model Code was provided by Joost Walraven; further information on this topic was given during the Technical Activities Workshop (see separate report in this issue). In the evening, the Council and



On Monday 26 April during the opening ceremony of the 2004 *fib* Symposium on *Concrete Structures: the Challenge of Creativity* in Avignon, President Jim Forbes presented Professor Josef Eibl with the *fib* Medal of Merit, in recognition of his career and contributions in the field of structural engineering, spanning both academia and private practice.

Born in Parsberg, Germany, in 1936, Josef Eibl earned his doctorate at the University of Braunschweig in 1963 and became associate professor at the Institute for



Reinforced Concrete Structures and Fire Protection at the same university in 1968. His academic career continued at the University of Dortmund, where he held the position of full professor and, from 1978 to 1980 and 1981–1982, was the dean of the Faculty of Civil Engineering.

In the early 1980s his activities moved to Karlsruhe, as professor and director of the Institute of Reinforced Concrete Structures and Building Materials at the University of Karlsruhe, and with the founding of his consultancy practice, Professor Eibl & Part-



Experimental research in cooperation with Japan and the US: simulation of airplane impact on concrete protection wall



External prestressed bridge designed by Josef Eibl

ners, in which he is still actively involved today.

In addition to extensive work and publications on the strength and reinforcement of concrete structures, he has made important contributions to the design of containment structures for nuclear power plants, and brought his expertise to the German Federal Reactor Safety Commission for 16 years, and later to the International State Commission for Nuclear Engineering, of which he is chairman.

For many years he has been the chief editor of the German *Betonkalender*, the most important design handbook for concrete structures in Germany, thousands of copies of which are printed every year. He is also the author of the well-known *Concrete Structures: Euro-Design Handbook 1994/96*.

A long-time active member of CEB, he was already involved in the CEB Commission on Hyperstatic Structures during the time of the preparation of the 1978 CEB-FIP Model Code. He later co-chaired CEB Commission II on Structural Analysis for over a decade, until the drafting of the 1990 Model Code. At that time he was also a main author in the 1981 CEB course in Pavia entitled 'Non-linear analysis and design of reinforced concrete and prestressed concrete structures'.

For many years he served on the CEB Advisory Committee (comparable to today's Council and Steering Committee). After 1990 he was an active member in CEB Task Group 1.1: General Concepts—Non-linear Design Methods And Safety Concepts; in CEB Task Group 2.2: Ductility Requirements for Structural Concrete Reinforcement; in CEB Commission 3: Design; and in the Joint CEB-FIP Working Group on External Prestressing. He also authored the structural analysis part of the Model Code textbook.

Our congratulations to Professor Eibl!

General Assembly

National delegates representing 31 member countries met for the General Assembly on Sunday 25 April. Several important items of business were addressed, including the election of *fib*'s president and deputy president for 2004–2006. By secret ballot, Giuseppe Mancini was elected as president and Hans-Rudolph Ganz as

deputy president, with 67 or 68 votes out of 68. At the proposal of Giuseppe Mancini, the title of honorary president was then unanimously conferred on retiring president Jim Forbes.

The delegates also considered revisions to the *fib* statutes. The most notable modifications pertained to the place of registration of the association (changed from Geneva to the Canton of Vaud), to the updating of membership categories, to representation, voting and record-keeping procedures for General Assemblies, and included a recommendation that members of commissions should eventually become members of *fib*, either individually or through their organisation or company. After discussion and minor changes to wording, the revised statutes were unanimously approved by the delegates.

Outgoing President Jim Forbes reported on the activities of the organisation during the past two years. He noted that the work of the recently formed SAG 5 on the new Model Code is advancing, and that the *Structural Concrete* journal is progressing well under the supervision of editor Jean-Philippe Fuzier; however there is still a need for article contributions in both research and construction. Welcoming the presence of new Iranian and British delegates at the Assembly, he noted that there has in fact been a slight decline in national membership in recent years, and that ways need to be found to keep membership numbers up, for example by finding alternative ways of financing membership fees.

Giuseppe Mancini, as past deputy president and now president-elect, provided an update on the developments in the work of the Steering Committee, noting a number of recent changes in the composition and terms of reference of some commissions. He also emphasized the development of the new Model Code to combine serviceability, design for durability and execution as a key activity for the association for the next few years.



Persons honored during the Avignon symposium (from left to right: Imke Hirsch, *fib* medallist Josef Eibl, Elfriede Eibl, Jean Perchat, Collette Perchat, *fib* president Jim Forbes, Dianne Forbes)

The General Assembly provided the opportunity to acknowledge a few individuals who have been of particular importance to *fib* and previously to CEB. Jean Perchat (France) and Andrew Beeby (UK) were conferred honorary memberships in recognition of their many achievements and contributions to the organisation.



Jean Perchat

Jean Perchat was involved in the work of CEB for over 30 years. Since 1961 he assisted Nicolas Esquillan in preparing the *Recommandations Pratiques à l'Usage des Constructeurs*, published in 1963. In 1962 he became secretary of the mixed CEB-FIP Committee for Drafting of Recommendations for Prestressed Concrete. Its work resulted in the publication of *CEB-FIP International Recommendations for the Design and Construction of Concrete Structures* in 1970. During these years he also participated in several CEB commissions, including the International Recommendations

commission, of which he became head in 1971. From 1974 to 1978 he worked, together with Ake Holmberg, Roy E. Rowe, Manfred Stiller and Manfred Miehlsbradt, on the finalisation of the first CEB-FIP Model Code, published in 1978 and presented at the eighth FIP congress in London that year. Subsequently he was one of the two technical directors of CEB for five years (together with Gerd Thielen and later Rüdiger Tewes), and later participated in the editorial committee for Eurocode 2 and for the 1990 CEB-FIP Model Code. In addition to his CEB activities, Jean Perchat taught on the subject of reinforced concrete in France for 40 years and wrote numerous articles on topics related to reinforced and prestressed concrete.



Andrew Beeby

Andrew Beeby has been involved with CEB and *fib* since the early 1970s, when he participated in the work of CEB commissions

on Cracking, Calculation and Limitation of Deflections, and Bending and Compression. He took an active part in the work of all these commissions leading up to the publication of the 1978 Model Code. He later became a member of Commission 5: Serviceability, and of General Task Group 20: Durability and Service Life of Concrete Structures, contributed to the *CEB Design Guide on Durable Concrete Structures*, and was chairman of Commission 2: Material and Behaviour Modelling. He was also a member of the CEB Advisory Committee and later of the *fib* Steering Committee, head of the British national group in CEB for many years, and was the first editor-in-chief of *fib's* journal *Structural Concrete*, a position he held until 2001.

Outside of his work for CEB and *fib*, Andrew Beeby worked for the Cement and Concrete Association and subsequently the British Cement Association for 27 years. In 1991 he took up the chair in Structural Design at the University of Leeds. He has been involved with the drafting of the Eurocode for structural concrete since 1985 and is chairman of the Project Team for drafting the Eurocode for the design of concrete liquid-retaining and containment structures. He is a Fellow of the Royal Academy of Engineering, a Fellow of the Institution of Structural Engineers, and a Fellow of the American Concrete Institute.

Our congratulations to honorary members Jean Perchat and Andrew Beeby!

Special recognition was also given to Imke Hirsch, who will be retiring in a few months after 30 years of devoted service at the CEB and *fib* secretariats. Over the years, her hard work, kindness and efficiency have earned the respect, appreciation and affection of all who had the opportunity to interact with her. There is no doubt that she will be sorely missed!

Technical Activities Workshop

The Technical Activities Workshop held on Sunday 25 April focused on the development of the new Model Code and on the first presentation of forthcoming bulletins. The workshop began with a report by Joost Walraven, head of the Special Activities Group (SAG) 5: New Model Code, on the state of progress. He went through the planned table of contents, providing specific details on subchapters and on commission contributions, which had been developed during the group's last meeting in February. He outlined the various groups who are or will be involved in the work and summarised the planned target dates. The next working meeting is planned for September 2004 in Zürich; a well-attended interim meeting took place during the symposium in Avignon.

Aad van der Horst then presented the planned working programme of *fib* Commission 10: Construction, and its contribution to the development of the new Model Code. He noted that Commission 10's draft working programme contains a number of areas of common interest with the fields of activity of SAG 5 and of Commission 5 and stressed the importance of coordinating the work with these groups by means of developing in common certain 'packages' that can be easily exchanged. The commission had its kick-off meeting during the symposium; Aad van der Horst emphasised that although the commission is now underway, it is still open for further active members to join in the work!

Forthcoming bulletins were presented in the second half of the workshop. Members of Task Group 4.4 gave a chapter-by-chapter presentation of their almost finalised bulletin: *A Practitioner's Guide to Computer-Based Modelling of Structural Concrete*, which was followed by an animated discussion with the experts present. Hans-Rudolph Ganz then gave an overview of *Recommendations for the Acceptance of Stay Cable Systems using Prestressing Steels*; and finally Bjorn Engström presented the work on *Structural Connections for Precast Concrete Structures*. All of these are expected to be published within the next 12 months.

fib 2005 Symposium: Keep Concrete Attractive 23–25 May 2005, Budapest

The upcoming Budapest symposium will be the major symposium in 2005 for those who believe in the future of structural concrete. The significance of concrete continues to increase, even with the appearance of new types of steel, aluminium, timber and glass products. Furthermore, concrete was and is attractive in many ways: just think about its constituent materials, which are available from local sources, as well as its unlimited forms, constructability, economy and aesthetics. We will only maintain the significance of concrete by optimising its performance.

Concrete is an excellent structural material, especially owing to its variety of properties, wide range of applicability and reasonable

price. The past 150 years have taught us how to deal with this material and how to develop it for the increasing requirements.

The principal aim of the 2005 *fib* Symposium in Budapest is to show the potential of concrete as a structural material in order to find optimal properties and applications. Technical sessions, task group and commission meetings will provide a forum for presentations and discussions for both engineers and architects.

Symposium topics

Topic 1: Attractiveness of concrete structures

- Architectural appearance

- Exposed concrete
- Economic and historical aspects
- Beauty of concrete structures

Topic 2: Innovative materials and technologies for concrete structures

- Tailored properties of concrete
- High performance concrete
- Fibre reinforced concrete
- Self-compacting concrete
- Lightweight concrete
- Green concrete
- Metallic and non-metallic reinforcements
- Production and construction techniques

Topic 3: Modelling of structural concrete

- Design and modelling aspects
- Modelling of cracking, damage and displacements
- Performance based design
- Performance criteria

Topic 4: Sustainable concrete structures

- Resource oriented design
- Environmentally compatible materials
- Structural service life aspects
- Retrofitting of concrete structures



- Monitoring, maintenance and strengthening techniques

Topic 5: Prefabrication

- Prefabrication and erection techniques
- Application of self-compacting concrete in prefabrication
- Construction joints

Topic 6: Fire design of concrete structures

- Material and structural behaviour in fire
- Fire safety design
- Case studies

Symposium venue

The symposium will take place at the Hungarian Academy of Sciences, located in the



heart of Budapest with a superb view of the Danube river bank and the hills of Buda.

Budapest, capital of Hungary, is beautifully situated on both sides of the Danube River. Its history dates back over 2000 years but its main characteristics reflect the atmosphere of the end of the nineteenth century when the millennium of the Hungarian State was celebrated. As Budapest is a traffic junction in eastern central Europe, it can be easily reached by air, train, car or hydrofoil. May is generally pleasant and sunny in Hungary with occasional short periods of rain. Temperatures range from 15 to 25°C.

Symposium secretariat

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Important dates

30 June 2004: Submission of abstracts

200–300 word abstracts are to be submitted by e-mail, including author contact

details and the proposed symposium topic. The first author will be considered as corresponding author if not requested otherwise.

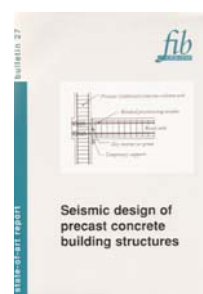
30 September 2004: Confirmation of acceptance of abstracts

31 January 2005: Submission of manuscripts

New bulletins

The series of *fib* Bulletins for the subscription year 2004 began with number 27, *Seismic design of precast concrete building structures*, mailed to members in February 2004. A brief description is given below. Non-members may order this or any other publication by simply following the instructions given on *fib's* website: <http://fib.epfl.ch/publications/>

Seismic design of precast concrete building structures (*fib* state-of-art report)



- *fib* Bulletin 27, Format 210 x 297mm, (approx. DIN A4), 262 pages, ISBN 2-88394-067-3
- Non-member price 110 CHF, surface mail included, for airmail add 20% extra charge

The aim of this state-of-art report is to present current practices for use of precast and prestressed concrete in countries in seismic regions, to recommend good practice, and to discuss current developments. The report has been drafted by 30 contributors from nine different countries.

This state-of-art report covers: state of the practice in various countries; advantages and disadvantages of incorporating precast reinforced and prestressed concrete in construction; lessons learned from previous earthquakes; construction concepts; design approaches; primary lateral load-resisting systems (precast and prestressed concrete frame systems and structural walls including dual systems) diaphragms of precast and prestressed concrete floor units; modelling and analytical methods; gravity load-resisting systems; foundations; and miscellaneous elements (shells, folded plates, stairs and architectural cladding panels). Design equations are reported where necessary, but the emphasis is on principles. Ordinary cast-in-place reinforced concrete is not considered in this report.

This *fib* state-of-art report is intended to assist designers and constructors to provide safe and economical applications of structural precast concrete and at the same time to allow innovation in design and construction to continue.

List of contents:

1. Introduction
2. Lessons from previous earthquakes
3. Precast construction concepts
4. Design approaches
5. Lateral force-resisting systems
6. Diaphragms
7. Gravity load-resisting systems
8. Foundations
9. Modelling and analytical methods
10. Miscellaneous elements and structures
11. Conclusions

Short notes

Professor **Manuel Elices Calafat** was elected to membership of the American National Academy of Engineering (Foreign Associate) in February 2004, for his contributions to the fracture mechanics of concrete at



**Manuel
Elices
Calafat**

cryogenic temperatures and to stress corrosion cracking of prestressed steel, in addition to his leadership in the fields of materials science and structural integrity. Election to the National Academy of Engineering is among the highest professional distinctions accorded to an engineer; this is the first time that it has been granted to a Spanish professional. Manuel Elices Calafat is a long-time member of CEB and *fib* (more than 25 years!), an active participant in Commission 9: Reinforcing and Prestressing Materials and Systems and convenor of Task Group 9.5: Durability of Prestressing Materials.



Roy Rowe

Congratulations and best wishes for a continuing good health are addressed to Dr **Roy E. Rowe**, CEB honorary president and FIP honorary life member, who celebrated his seventy-fifth birthday in January. Joining the British Cement and Concrete Association in 1952, which at that time hosted the FIP secretariat, he became involved with FIP work as early as 1958. Having later been chairman of the CEB Commission: Structural Safety-Practical Recommendations, he participated actively in the preparation of the 1978 CEB-FIP Model Code and after numerous other functions served as CEB president from 1987 to 1998, leading this association to a merger with FIP. As imme-

diate past-president he served on *fib*'s presidium from 1998 to 2000.

Congratulations and best wishes also go to **Yves Saillard**, CEB honorary life member, who is celebrating his eightieth anniversary in May. Nominated as Secrétaire Permanent to the Comité Européen du Béton (CEB) right from the beginning in 1953, when the secretariat was hosted by the French National Federation of Building in Paris, he later served as vice-président délégué and président délégué until his retirement in 1989. As the permanent chief executive in the secretariat over all these years he was involved in virtually all activities of the association.

The next ***fib* Diplomas to Younger Engineers** will be awarded in May 2005 at the *fib* symposium in Budapest, in memory of the late Fritz Leonhardt. As usual, the award is attributed in two categories, Research and Design, and Construction, and consists of a diploma, a cash prize sponsored by Leonhardt, Andrä and Partners (Stuttgart), and a free invitation (including travel and accommodation support) to the symposium. Candidates for the awards can be proposed by *fib* National Member Groups, selected from the best candidates within their own countries (candidates are only eligible if born 1966 or later). For the Research award, the candidate's application shall consist of a 6–10 page English summary of the work written by the candidate, together with a curriculum vitae and the original PhD thesis (in any language); for the Design and Execution award, copies of illustrations, drawings and descriptions of technologies are to be submitted.

Deadline for candidates' applications will be 15 October 2004. All National Delegations will be addressed by a separate letter. For further information see *fib*'s website or contact György Balázs, chairman of the jury, balazs@vbt.bme.hu

Congresses and symposia

The calendar lists *fib* congresses and symposia (also co-sponsored events and, if space permits, events supported by the *fib* or organised by one of its National Groups). It reflects the state of information available to the Secretariat at the time of printing and the information given may be subject to change.

Date and location	Event	Main organiser	Contact
13–14 September 2004, Kassel, Germany	International Symposium on Ultra High Performance Concrete	University of Kassel	University of Kassel Department of Structural Materials Department of Structural Engineering Mönchebergstrasse 7, D-34125, Kassel Tel.: +49 561 804 2602; Fax +49 804 2662 Email: baustk@uni-kassel.de
11–12 October, 2004, Zürich, Switzerland	Workshop on Durability of post-tensioning tendons	<i>fib</i> /IABSE	Symposium Secretariat Nick Marietta, Institute of Building Materials, IMaterials Chemistry and Corrosion (IBWK) ETH Hoenggerberg, CH-8093 Zürich, Switzerland Tel.: +41 1 633 2711; Fax: +41 1 633 1147 Email: nick@ibwk.baug.ethz.ch
26–29 November 2004, New Delhi,	<i>fib</i> Symposium: Segmental Construction	Indian <i>fib</i> Group: IoE (I), ICI	The Hon. Secretary Organising Committee, <i>fib</i> Symposium 2004 India Construma Consultancy Pvt Ltd N-25, Chittaranjan Park (ground floor), New Delhi-110019, India Tel. and fax: +91 11 2627 2447 Web: http://www.fib2004.com
23–25 May 2005, Budapest, Hungary	<i>fib</i> Symposium: Keep Concrete Attractive	<i>fib</i> Group Hungary	Symposium Secretariat, Hungarian Group of <i>fib</i> c/o Budapest University of Technology & Economics H-1111 Budapest, Műegyetem rkp. 3 Tel.: +36 1 463 4068; Fax: +36 1 463 3450 Email: fibsymp2005@eik.bme.hu Web: http://www.eat.bme.hu/fibsymp2005
28–30 September 2005, La Plata, Argentina	<i>fib</i> Symposium: Structural Concrete and Time	<i>fib</i> Group Argentina	Symposium Secretariat: Cerrito 1250 (C1010AAZ) Buenos Aires, Argentina Tel./Fax: +54 11 4815 8154 Email: fib2005argentina@aahes.org.ar

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